

## ABSTRACT

The present invention comprises compositions and methods for modulating or augmenting growth factor activity, especially TGF- $\beta$  activity, by administering a fatty acid. The invention is based upon the discovery that fatty acids, especially those fatty acids having a carbon skeleton of at least 14 carbons, bind to  $\alpha$ 2-macroglobulin, prevent binding of TGF- $\beta$  to  $\alpha$ 2-macroglobulin, and disrupt TGF- $\beta$ - $\alpha$ 2-macroglobulin complexes, which results in an effective increase in TGF- $\beta$  activity. Fatty acids that bind to  $\alpha$ 2-macroglobulin are useful in therapies for diseases that involve TGF- $\beta$  or other growth factors, which are regulated by  $\alpha$ 2-macroglobulin binding.